

CLAIMS

1. A method of operating a radio communication system having a random access channel for enabling a secondary station to transmit a message to a primary station, comprising the secondary station transmitting a preamble encoded with a signature on the random access channel to the primary station and subsequently transmitting the message, characterised by the primary station transmitting a control channel including power control information after successful reception of the preamble, in response to which the secondary station adjusts the output power of its transmitter.

2. A method as claimed in claim 1, characterised by the primary station selecting a channelisation code for the control channel by reference to the signature of the preamble.

15 3. A method as claimed in claim 2, characterised by the channelisation code corresponding to a preamble signature being predetermined.

20 4. A method as claimed in any one of claims 1 to 3, characterised by the primary station selecting a scrambling code for the control channel which is different to that used for some other downlink transmissions.

25 5. A method as claimed in any one of claims 1 to 4, characterised by the secondary station transmitting a succession of preambles at increasing power levels and at predetermined intervals until an acknowledgement is received from the primary station, after which acknowledgement the message is transmitted.

30 6. A method as claimed in claim 5, characterised by transmission of the control channel by the primary station constituting the required acknowledgement.

7. A method as claimed in claim 5, characterised by interruption of the control channel by the primary station indicating that the message has been received in a corrupted state.

5

8. A radio communication system comprising a primary station, a secondary station and a random access channel for transmission of messages from the secondary station to the primary station, the secondary station having means for transmitting a preamble encoded with a signature on the random access channel, characterised in that the primary station has means for transmitting a control channel including power control information after successful reception of the preamble, and the secondary station has means for adjusting the output power of its transmitter in response to the reception of the control channel.

15

9. A primary station for use in a radio communication system having a random access channel for the transmission of messages from a secondary station to the primary station, the primary station having means for reception of a preamble encoded with a signature on the random access channel transmitted by the secondary station and means for determining the power of a transmission received from the secondary, characterised in that means are provided for transmitting a control channel after successful reception of the preamble, the control channel including power control information for the secondary station to alter the output power of its transmitter.

25

10. A primary station as claimed in claim 9, characterised in that means are provided for selecting a channelisation code for the control channel by reference to the signature of the preamble.

30

11. A primary station as claimed in claim 9 or 10, characterised in that means are provided for transmitting an acknowledgement after successful receipt of the preamble.

12. A primary station as claimed in claim 11, characterised in that means are provided for initiating transmission of the control channel to provide the required acknowledgement.

5

13. A primary station as claimed in claim 11, characterised in that means are provided for interrupting transmission of the control channel to indicate that at least part of the message has been received in a corrupted state.

10

14. A secondary station comprising for use in a radio communication system having a random access channel for the transmission of messages to a primary station, the secondary station having means for transmitting a preamble encoded with a signature on the random access channel, 15 characterised in that the secondary station has means for adjusting the output power of its transmitter in response to the reception of a control channel transmitted by the primary station.

15. A secondary station as claimed in claim 14, characterised in that means are provided for transmitting a succession of preambles at increasing power levels and at predetermined intervals, for receiving an acknowledgement from the primary station, and for transmitting the message after receipt of the acknowledgement.